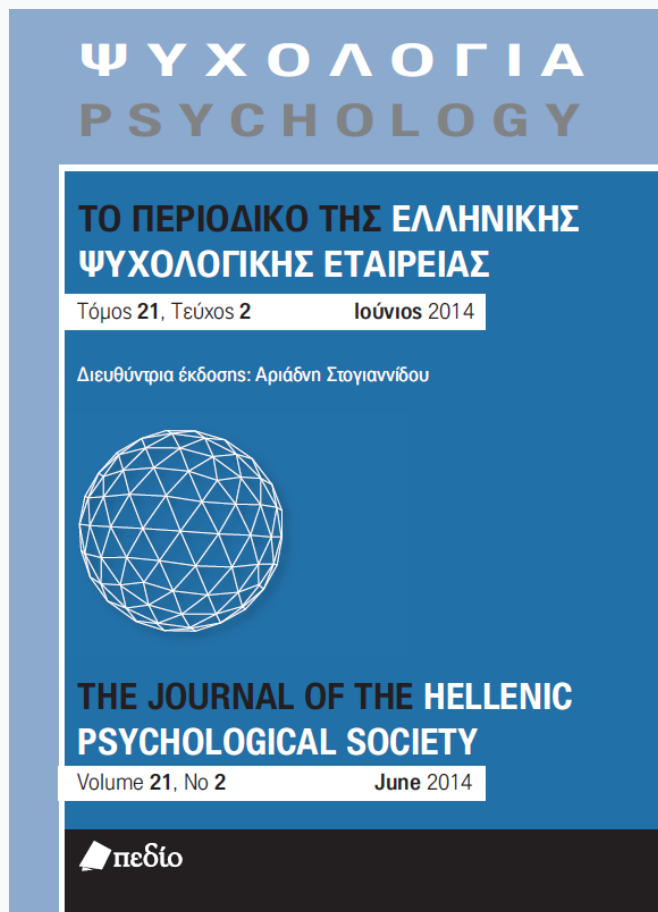


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# Academic Procrastination in Greek Higher Education: Shedding Light on a Darkened yet Critical Issue<sup>1</sup>

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## ABSTRACT

Academic procrastination, characterized by self-regulation difficulties in delaying the start or completion of academic tasks (Ferrari, 2010), is widespread among university students. One of the most widely used measures of academic procrastination is Procrastination Assessment Scale Students (PASS, Solomon & Rotblum, 1984). However, there is a dearth of research investigating its factorial structure using confirmatory factor analysis. Greek studies on academic procrastination are also scarce. The present study investigated academic procrastination among Greek university students ( $n = 865$ ), as well as the factorial structure of PASS. Results from a CFA supported a one factor solution. Moreover, 40.5% of students were characterized as frequent procrastinators, towards reading for the exams, writing essays or attending classes. The reasons students gave for procrastinating were "fear of failure", "task aversion", "fear of success /peer pressure" and "lack of assertiveness/ time management skills". No major, age, or gender differences in academic procrastination were detected. Finally, most students wished to participate in a future anti-procrastination program. Findings increase the ecological validity of current literature and could be potentially useful for counselors and researchers.

*Keywords:* Academic procrastination, Confirmatory factor analysis, Reasons, gender differences, Intervention.

## 1. Introduction

University students constitute a group of individuals with special characteristics and needs associated with their developmental stage (Karade-

mas, & Kalantzi-Azizi, 2003). Greek university students, in particular, were found to be 1.5 to 2 times more likely to develop a psychological disorder comparing to the general adult Greek population (Efthimiou, Efstathiou & Kalantzi-Azizi, 2007; Nav-

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ridis, Dragona, Mialiarini&Damigos, 1990). Psychological difficulties may have a profound impact on academic performance and on the quality of students' lives in general, particularly difficulties around academic-related task delays (Ferrari, 2004; Schouwenburg, Lay, Pychyl, & Ferrari, 2004). In fact, such problems may result in the prolongation of the study duration with many financial and social implications (Harila&Kalantzi-Azizi, 2007). Taken together, the need to properly understand, and deal with students' difficulties is pivotal and associated with many personal and social benefits.

### **Definition and frequency of academic procrastination**

Problematic *academic procrastination*, characterized by self-regulation difficulties in the form of delaying the start and/or completion of necessary and important academic-related tasks (Ferrari, 2004; 2010), constitutes one of the most common and serious problems of university students both in Greece (Giovazolias, Leontopoulou&Triliva (2010) and internationally (Day, Mensink& O' Sullivan, 2000; Haycock, 1993; Micek, 1982; Potts, 1987; Solomon &Rothblum, 1984; Steel, 2007). It is estimated that over 75% of students procrastinate frequently, particularly towards meeting study obligations, and many students reported that such delays cause serious academic difficulties.

### **Measurement of academic procrastination**

A number of studies on academic procrastination (e.g. Alexander &Onwuegbuzie, 2007; Bridges &Roig, 1997;D az-Morales & Ferrari, 2015; Ferrari, Keane, Wolfe & Beck, 1998; Howel, Watson, Powell &Buro, 2006; Özer, Demir& Ferrari, 2009; Özer& Ferrari, 2011; Solomon &Rotblum, 1984) used the *Procrastination Assessment Scale Students (PASS)*, Solomon and Rotblum, 1984). An extensive body of literature demonstrated that the original scale was internally consistent (Ferrari, 1989) and valid (Beswick, Rothblum, & Mann, 1988; Milgram, Batori, Mowrer, 1993; Rothblum, Solomon,&Murakabi, 1986; Solomon &Rothblum, 1984). However,

not many studies investigated the factorial structure of the PASS, using confirmatory factor analysis. Solomon and Rothblum (1984) proposed a three-factor structure for the first part of the PASS, focusing on frequency, extent of problem and a wish to change academic procrastination across 6 academic tasks, but these scholars did not provide further evidence regarding its factorial structure. Moreover, according to the original instructions, frequency and problem items are summed, since both behavioral delay and psychological distress are included in the procrastination definitions (Solomon &Rothblum, 1984). In contrast, other researchers (Ferrari et al. 1995; Milgram et al.1993) suggested that frequency and problem items should be treated as individual variables. This scale was adapted in the Greek language by Xatzidimou, (1994) and administered in a sample of 162 undergraduate students, demonstrating low reliability.

### **The present study**

Despite the growing numbers of students exhibiting dilatory behaviors, studies investigating academic procrastination among Greek university students are scarce (Kalantzi-Azizi&Karademas, 1994; Kalantzi-Azizi&Xatzidimou, 1996). The present study aims to fill this gap in the literature, investigating the reasons and the percentage of people displaying high academic procrastination among Greek undergraduates. This study also aimed to explore possible gender and age differences in academic-related time delays. The attitudes of the students towards participating in a future anti-procrastination program were also investigated.

Another goal of the present study was to investigate the factorial structure of the Greek-PASS using Confirmatory Factor analysis (CFA), which is considered a powerful statistical tool for measurement model validation (Brown, 2006; Mac Callum& Austin, 2000). We evaluated three competing models focused on academic-task delays. In the first model, the latent construct of academic procrastination consisted of both the frequency of delayed tasks and the degree to which this delay was con-

sidered problematic (Solomon & Rothblum, 1984), while the wish to decrease procrastination was considered as a second related factor. In the second model, academic procrastination was represented only by the frequency of the delayed academic tasks (Ferrari, Johnson, & McCown, 1995; Milgram et al., 1993). Finally, a third model specified the latent constructs of a) frequency of academic procrastination, b) the degree to which procrastination at the task is considered as a problem and c) the wish to decrease procrastination at the task as three related factors, based on the theoretical three-factor structure suggested by Solomon and Rothblum (1984) and its empirical validation in the Turkish version of the scale (Özer, Demir, & Ferrari, 2009).

If the validation of the Greek PASS proves to be successful, this will also have implications for calculating academic procrastination total score. Most importantly, the study could potentially broaden our understanding regarding the latent structure of academic procrastination. In addition, it will further test the assumption of the universality of the academic procrastination construct, incorporating data from a culture largely neglected in the procrastination literature. In addition, a successful adaptation of the scale in the Greek language could facilitate cross-cultural research, and would also provide Greek clinicians and educators with a valuable tool for detecting procrastination among Greek university students. A greater ambition of this research is to inform current policies at the national, European and international level regarding the need to provide high quality, evidence-based psychological services to students facing impediments towards successful completion of their studies.

## 2. Method

### Participants

A sample of 865 Greek undergraduate university students (605 women, 229 men:  $M$  age = 21.84 years old,  $SD = 4.18$ ) participated in the study. Participants reflected different years in university, such that 25.8% were first year students,

33.1% were second years, 12.9% third year students, 17.6% at their fourth year, 48 (5.5%) at their fifth year, while 26 students (2.94%) were at their sixth year of studies or above. The mean number of courses failed across students was 3.85 ( $SD = 5.20$ ), ranging from 0 to 40. Participants were recruited during class lectures using group administration. A 90% of the students agreed to participate in the study after informed consent. Participation was voluntary and no direct benefits were provided to participants (e.g., extra credit or a raffle), except from the opportunity to access the results of the study and of their personal assessment using a secret code.

### Materials

The academic procrastination measure was included into a wider survey on procrastination personality and volition. For the purpose of present study we took only demographics and academic procrastination measures into account. More specifically, academic procrastination was measured by the Greek version of *Procrastination Assessment Scale – Students* (PASS, Solomon & Rothblum, 1984, adapted by Xatzidimou, 1994). Participants also completed a short set of demographical characteristics. The original version of the PASS assessed academic procrastination across 6 academic tasks on 5-point Likert scales (1 = *never procrastinate* to 5 = *always procrastinate*). Also, respondents indicated the degree to which they feel procrastination on the task is a problem to them (1 = *not at all a problem*; 5 = *always a problem*) and the degree to which they would like to decrease their tendency to procrastinate on the task (1 = *do not want to decrease*; 5 = *definitely want to decrease*). In the second section of the PASS, students rated on a 5 –point Likert scale (1 = *not at all reflects why I procrastinate*; 5 = *definitely reflects why I procrastinated*), the reasons for procrastinating on an essay assignment, with 26 items covering 13 types of motivation. A factor analysis of the original scale by Solomon and Rothblum (1984) indicated that two principal reasons for students to procrastinate on their academic-related obligation,

labeled *fear of failure* and *task aversiveness*. Finally, the third section of the *PASS* investigated the attitudes of the respondents towards a potential anti-procrastination intervention program as well as the desired characteristics of such a program. In the Greek version, only the five following academic tasks, that fit better the obligations of the students in the Greek Higher Education, were included: a) writing term papers, b) studying for the exams, c) academic-administrative tasks, d) course attendance, and e) school activities in general. Reliabilities of the Greek adaptation of *PASS* were low (frequency Cronbach's alpha = 0.60, problem Cronbach's alpha = 0.70: Xatzidimou, 1994). In the present study, however, coefficient alpha was acceptable (frequency Cronbach's alpha = 0.77; Cronbach's alpha problem = 0.81).

### Procedure

Participants were told that they were going to participate in a study assessing academic procrastination. Administration was held during the first 20 minutes of a lecture, after the informed consent from the School's department. To protect the confidentiality of participation and answers, questionnaires were administered to all students, regardless of their intention to participate. Students then were asked to place the questionnaires in sealed envelopes and return them to the research assistants.

## 3. Results

### Model Fit

To evaluate the factor structure of the *Greek-PASS*, we performed a *confirmatory factor analysis* (CFA) using AMOS 17.0. The first model was a 2 factor model, in which the 5 items of the *frequency* and the 5 items of the *problem* scale jointly constituted one academic procrastination factor, while the 5 *wish to change* items constituted another factor named *change*. The second model was a one factor model, in which the academic procrastination factor consisted of the five *frequency* items, solely. Finally, the third model was a 3 factor model,

in which the 5 items of *frequency* constituted the factor of *frequency*, the 5 items of *problem* constituted the factor of *problem* and the 5 items of *change* constituted the factor of *change*. The 3 factors were correlated. Maximum likelihood estimation evaluated all three models. In the present study, the following criteria were used as cut-offs for good fit: a) the Comparative Fit Index (CFI, Bentler 1990) and the Normed Fit Index (NFI, Bentler and Bonett 1980). The criteria for an indication of good model-data fit using those indices is 0.90, with >0.95 being ideal (Bentler 1995; Hu and Bentler 1995), b) the Root Mean Square Error Of Approximation (RMSEA, Browne and Cudeck, 1993), and the Standardized Root Mean Square Residual (SRMR, Bentler, 1995). Values below 0.08, are considered acceptable and values below 0.05 are considered ideal (Browne and Cudeck 1999), and finally c) Akaike's Information Criterion (AIC, Akaike, 1973 cited by Burnham and Anderson 2001). The model with the lowest value represents a better fit (Brown, 2006). Results revealed that the 1-factor model (second) yielded the best fit ( $\chi^2=28.34$ ,  $df = 5$ , CFI = 0.98, NFI = 0.97, RMSEA = 0.07, SRMR = 0.03 and AIC = 58.34). The fit was significantly better (based on fit indices) than that of the other two models (fit statistics for all the CFA models of academic procrastination may be found in Table 1). Standardized factor loadings were uniformly large and significant.

### Mean-Level Differences

In the case of mean-level differences in academic procrastination (frequency items) between males and females, a t-test for independent samples revealed no significant mean-level differences between males ( $M. = 54.61$ ,  $S.D. = 10.87$ ) and females ( $M. = 53.40$ ,  $S.D. = 12.26$ ), at the mean GP scores [ $t(460, 05) = 1.38$ ,  $p = .17$ ]

### Percentages of high academic procrastinators

To divide participants into high and low academic procrastinators, the median split was used,

**Table 1**  
**Fit indices for alternative models of PASS**

Model	$\chi^2$	p	df	$\chi^2/df$	CFI	NFI	SRMR	RMSEA	AIC
Model 1	2764.72	.000	89	31.06	.57	.56	.12	.19	2826.72
Model 2	28.34	.000	5	5.67	.98	.97	.03	.07	58.34
Model 3	2116.11	.000	87	24.32	.67	.66	.09	.16	2182.11

Note: CFI = comparative fit index; NFI= normed fit index; SRMR = standardized root mean square residual. RMSEA = root mean square error of approximation; AIC= Akaike's Information Criterion;

following the tradition of a number of previous studies (e.g. Beck, Koons&Milgrim, 2001; Konig&Kleninmann, 2004; Van Eerde, 2003). In the present study, students with scores in the 5 frequency items equal or below 13 were labeled *low academic procrastinators* (59.5%,  $n = 515$ ), while students with scores of 15 or above were characterized as *high academic procrastinators* (40.5%,  $n = 350$ ). Total mean score in the 5 frequency items of the *Greek-PASS* was 12.71 ( $S.D. = 3.59$ ), ranging from 5 to 25. In order to examine the academic tasks students more frequently procrastinated we calculated the frequencies of the students that responded that they always or nearly always procrastinated at each of the five academic tasks. Results showed that the tasks which students more frequently procrastinated were reading for exams (23.5%), writing term papers (19.2 %) and course attendance (14.3 %). On the contrary, only the 12.4% and 12.8% of the students were high procrastinators when it came to completing academic-administrative tasks and school activities in general, respectively. Pearson product-moment correlations also revealed that there was a positive association between age and procrastination, although the size of the correlation was negligible ( $r = .07$ ,  $p = .04$ ).

#### **Reasons for academic procrastination among male and female students**

To investigate the reasons Greek why undergraduate students procrastinate, the 26 items for reasons of academic procrastination were subject-

ed to a principal component analysis with varimax rotation. The rotated solution revealed the presence of 4 factors that explained a 45.07% of the total variance. The first factor explained 13.5% of the total variance, contained seven items and focused on "*fear of failure/ negative evaluation*". A second factor contained 9 items and explained 13.5% of the variance. This factor focused on "*task aversion/ resistance against externally imposed tasks*". The third factor contained 5 items and focused on "*fear of success and peer pressure*" explaining 10.3% of the variance. Finally, the fourth factor contained five items, it explained 7.8% of the variance and focused on "*task of assertiveness/ time management skills*" (see table 2 for further details). Results of a 2 (gender) by 4 (reasons) MANOVA revealed that there was a statistically significant difference between males and females on the combined dependent variables [ $F(4, 824) = 20.84$ ,  $p = .000$ . Pillai's Trace = .09, partial eta squared = .09]. When the results for the dependent variables were considered separately, the only difference to reach statistical significance using a Bonferroni adjusted alpha level of .012 was "*fear of success/ peer pressure*" [ $F(1, 827) = 65.80$ ,  $p = .000$ , partial eta squared = .07]. An inspection of the mean scores indicated that males reported slightly higher levels at this factor ( $M = 7.66$ ,  $S.D. = .15$ ) in comparison to females ( $M = 6.27$ ,  $S.D. = .09$ ). Frequencies of the responses of the participants in the third section of PASS revealed that 63.8% of the students wished to attend a future anti-procrastination program and 85% responded that such a program would be somewhat or extremely useful. As far as

**Table2**  
**The factorial structure of the second section of the PASS**

#	item	factor			
		1	2	3	4
21	You were concerned you wouldn't meet your own expectations	<b>.77</b>	.11	.10	.08
24	You set very high standards for yourself and you worried that you wouldn't be able to meet those standards	<b>.75</b>	.06	.13	-.05
6	You were worried you would get a bad grade	<b>.71</b>		.13	.15
1	You were concerned the professor wouldn't like your work	<b>.65</b>	-.11	.05	.09
15	You didn't trust yourself to do a good job	<b>.63</b>	.23	.08	.20
2	You had a hard time knowing what to include and what not to include in your paper	<b>.47</b>		-.15	.34
8	You didn't think you know enough to write the paper	<b>.47</b>	.33	-.12	.33
17	You felt it just takes too long to write a term paper	.23	<b>.69</b>		.06
26	You just felt too lazy to write a term paper	-.17	<b>.64</b>	.05	.14
9	You really disliked writing term papers	-.06	<b>.64</b>	.08	.20
16	You didn't have enough energy to begin the task	.20	<b>.63</b>	.05	-.18
10	You felt overwhelmed by the task	.28	<b>.62</b>	-.09	.22
20	Απεχθανόσου να σου βάζουν προθεσμίες	.04	<b>.58</b>	.36	.17
7	You resented having to do things assigned by others	.10	<b>.57</b>	.25	.07
19	You knew that your classmates hadn't started the paper either	-.06	<b>.43</b>	.24	.42
4	You had too many other things to do		<b>.38</b>	.10	-.31
18	You liked the challenge of waiting until the deadline	-.07	.10	<b>.78</b>	.04
12	You looked forward at the excitement of doing this task at the last minute	-.05	.15	<b>.77</b>	
22	You were concerned that if you got a good grade, people would have higher expectations of you in the future	.23	.05	<b>.65</b>	.16
14	You were concerned that if you did well, your classmates would resent you	.20		<b>.64</b>	.07
25	Your friends were pressuring you to do other things		.38	<b>.40</b>	.06
23	You waited to see if the professor would give you some more information about the paper	.19	-.03	.05	<b>.61</b>
3	You waited until a classmate did his or hers, so that he/ she could give you some advice		.19	.14	<b>.60</b>
5	There's some information you needed to ask the professor, but you felt uncomfortable approaching him	.38	.05		<b>.52</b>
11	You had difficulty requesting information from other people	.30	.17	.18	<b>.41</b>
13	You couldn't choose among all the topics	.12	.09	.21	<b>.28</b>

Note: Principal components analysis with varimax rotation.

the format, most of the respondents reported it would be more interesting to them, if it took the form of a lecture (40.4%) or a group discussion (22.8%), few of the students preferred following a written manual (.9%), a 26.2% preferred a combination of the above, while a very small percentage of students responded that they were not interested in such a program (9.6%). Finally, the majority (60.4%) of the respondents said that they were willing to attend less than five sessions (60.4%) if a procrastination program was offered, with a frequency of 1 session per week (68.9%) and a size of 10 to 20 participants (48.7%).

#### 4. Discussion

The present study explored academic procrastination in the previously neglected cultural context of Greek higher education. The results demonstrated that the percentage of students characterized as high procrastinators (40.5%) as well as the tasks more frequently procrastinated (e.g. studying for the exams, writing term papers and attending courses) were closely matching the findings of studies conducted in other parts of the world (Clark & Hill, 1994; Hill, Hill, Chabot, & Barral, 1978; Orellana, Tindale, & Suarez 2000; Ozer, Demir & Ferrari, 2009; Solomon & Rothblum, 1984). This finding indicates that, internationally, university students constitute a rather homogenous group, who tends to procrastinate to a great extent, especially when it comes to tasks most closely related to their academic performance (Solomon & Rothblum, 1984). In addition, the reasons Greek university students gave for delaying academic tasks (e.g. “*fear of failure*”, “*task aversion*”, “*fear of success*” and “*lack of assertiveness/ time management skills*”) were quite similar to those found in previous studies (Ferrari, Keane, Wolfe & Beck, 1998; Özer & Ferrari, 2011; Solomon & Rothblum, 1984; Xatzidimou, 1994). The absence of gender differences is also in line with previous literature (D az-Morales & Ferrari, 2015; Ferrari, 1991; Ferrari, 2001; Haycock, McCarty, & Skay, 1998; Hess, Sherman, & Goodman, 2000; Johnson & Bloom, 1995; Mathioudakis, 2012;

Rothblum, et. al., 1986; Schouwenburg, 1992; Siatas, 1012; Solomon & Rothblum, 1984; Watson, 2001). In contrast, some researchers have reported that male students were more likely to procrastinate some academic tasks in comparison to women (Milgram, Marshevsky, & Sadeh, 1994; Özer, Demir & Ferrari, 2009; Pychyl, Coplan, & Reid, 2002). The only gender difference found in this study was that males were more likely to procrastinate due to “*fear of success / peer pressure*”, in comparison to females. In a Turkish study, it was also found that females were more likely to procrastinate due to fear of failure and laziness, while males were more likely to procrastinate as a result of risk taking and resistance against control (Özer, Demir & Ferrari, 2009). Results of the present study also suggest that procrastination increases slightly as students grow older, although the effect size of the difference was quite small. A possible explanation for this could lie in the highly competitive and structured nature of the Greek Secondary Education (Giovazolias, Leontopoulou & Triliva, 2010). In fact, according to Mellon, Koliadis, & Paraskevopoulos (2004), students invest a great deal of effort, both in the class and during the private lessons, because of a strong pressure from their families to be admitted in the university. Thus, in the first year, university students may still behave as they used to during the school years. However, as they slowly affiliate with the university environment, which is less structured and full of attractive alternatives, their procrastination tendencies increase.

An important contribution of the study was the evaluation of the factorial structure of academic procrastination, as measured by the Greek PASS, using for the first time a very powerful statistical technique that enables an in depth examination of the relationship between measured variables and latent constructs, namely CFA. The results illustrate that the Greek version of PASS is a reliable instrument for both clinicians and academic staff. However, the confirmatory factory analysis demonstrated that contrary to the original instructions, the addition of frequency and problem items of the PASS to compute total score is not supported. Further

cross-cultural validation of this finding using the same sophisticated methodology could potentially shed more light in the question of the universality of the factor structure of academic procrastination. The validation of the Greek PASS could also prove to be a useful addition to the tool kit of cross-cultural researchers, since further research among different cultural backgrounds and non-English speaking populations is needed to add ecological validity on the procrastination literature. Moreover, the results that the majority of students wished to participate in a future anti-procrastination program could be potentially useful in raising political and public awareness at both national and international level regarding the dimensions of academic procrastination.

The study's limitations lie in the sampling and method. The recruitment of participants during university courses may have excluded individuals who do not regularly attend classes, such as high procrastinators. The use of snowball sampling techniques or diary studies would have provided a more appropriate way to include students facing more serious procrastination problems. Moreover, the analyses relied exclusively on self-reports, excluding behavioral measures of dilatory behaviors or other objective measures of procrastination.

To sum up, the results of this study highlight the urgent need to adjust current assessment tools and prevention and intervention anti-procrastination programs to the diverse needs of different populations, in the face of high percentages of students willing to ask help for the reduction of their dilatory behavior. The findings of this study regarding the universality of frequency, tasks and reasons for academic procrastination, regardless gender, age or cultural differences points to the importance to focus not only on individual differences but also at the process. As Krause and Freunda (2014) pointed out, interventions should focus more on the development and changes of procrastination over time and across contexts. More precisely, they suggested that to overcome procrastination it may be helpful to center on the means of goal pursuit rather than the outcome, especially at the beginning of the task, when reward

is distant and fear of failure is high. On the contrary, the model suggests that when deadline is near or task aversion is high, it may be more beneficial to concentrate on the outcome. Tan, Ang, Klassen, Yeo, Wong, Huan, and Chong, (2008) have also stressed the importance of adaptive help-seeking and effective management of academic stress. To sum up, the findings of the present study extend previous literature on the factor structure of a commonly used academic procrastination measure, namely PASS and help increase ecological validity of the procrastination literature mostly conducted in English speaking populations. The study also highlights the need to develop psychological counseling services within an effective and coherent student support system which will enable students to deal with difficulties interfering with successful completion of their studies.

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## References

- Alexander, E. S., & Onwuegbuzie, A. J. (2007). Academic procrastination and the role of hope as a coping strategy. *Personality and Individual Differences*, 42(7), 1301-1310.
- Beck, B.L., Koons, S.R., & Milgram, D.L. (2000). Correlates and consequences of behavioral procrastination: The effects of academic procrastination, self-consciousness, self-esteem, and self-handicapping. *Journal of Social Behavior and Personality*, 15, 3-13.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238-246.
- Bentler, P. M. (1995). *EQS structural equations program manual*. Encino: Multivariate Software, Inc.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88, 588-606
- Beswick, G., Rothblum, E. D., & Mann, L. (1988). Psychological antecedents to student procrastination. *Australian Psychologist*, 23, 207-217
- Bridges, K. R., & Roig, M. (1997). Academic procrastination

- tion and irrational thinking: A re-examination with context controlled. *Personality and Individual Differences*, 22(6), 941-944.
- Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. New York: Guilford.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Newbury Park: Sage.
- Burnham, K. P., & Anderson, D. R. (2001). Kullback-Leibler information as a basis for strong inference in ecological studies. *Wildlife Research* 28, 111-119
- Clark, J. L., & Hill, O. W. (1994). Academic procrastination among African-American college students. *Psychological Reports*, 75, 931-936
- Day, V., Mensink, D., & O'Sullivan, M. (2000). Patterns of academic procrastination. *Journal of College Reading and Learning*, 30, 120-134.
- D az-Morales, J. F., & Ferrari, J. R. (2015). More Time to Procrastinators: The Role of Time Perspective. In M. Stolarski, N. Fieulaine & W. vanBeek (Eds.), *Time Perspective Theory: Review, Research and Application* (pp. 305-321). Switzerland: Springer International Publishing.
- Ferrari, J. R. (1991). Self-handicapping by procrastinators: Protecting self-esteem, social esteem, or both? *Journal of Research in Personality*, 25, 245-261.
- Ferrari, J. R. (2001). Procrastination and attention: Factor analysis of attention deficit, boredomness, intelligence, self-esteem, and task delay frequencies. *Journal of Social Behavior and Personality*, 16, 185-196.
- Ferrari, J. R. (2004). Trait procrastination in academic settings: An overview of students who engage in task delays. In H. C. Schowuenburg, C. Lay, T. A. Pychyl, & J. R. Ferrari (Eds.), *Counseling the procrastinator in academic settings* (pp. 19-28). Washington, DC: American Psychological Association.
- Ferrari, J. R., Johnson, J., & McCown, W. (1995). *Procrastination and Task Avoidance: Theory, Research, and Treatment*. New York: Plenum Press
- Ferrari, J. R., Özer, U. B., & Demir, A. (2009). Chronic Procrastination among Turkish Adults: Exploring Decision, Avoidant, and Arousal Styles. *Journal of Social Psychology*, 149 (3), 302-307.
- Ferrari, J.R. (1989). Reliability of academic and dispositional measures of procrastination. *Psychological Reports*, 64, 1057-1058
- Ferrari, J.R. (2010). *Still Procrastinating? The No Regrets Guide to Getting It Done*. New York: Wiley.
- Ferrari, J.R., Keane, S., Wolfe, R., & Beck, B. (1998). The antecedents and consequences of academic excuse-making: Examining individuals differences in procrastination. *Research in Higher Education*, 39, 199-215.
- Giovazolias, T., Leontopoulou, S., & Triliva, S. (2010). Assessment of Greek University Students' Counseling Needs and Attitudes: An Exploratory Study. *International Journal for the Advancement of Counselling*, 32, 101-116
- Harila, D., & Kalantzi-Azizi, A. (2007). Ποιότητα Ζωής και Ψυχολογική Συμβουλευτική Φοιτητών [Well-being and Psychological Counselling of Students]. *Επιθεώρηση Συμβουλευτικής και Προσανατολισμού* [Review of Counselling and Guidance], 80-81, 267-280. [in Greek]
- Haycock, L. A. (1993). The cognitive mediation of procrastination: An investigation of the relationship between procrastination and self-efficacy beliefs (Doctoral dissertation, University of Minnesota, 1993). *Dissertation Abstracts International*, 54, 2261.
- Haycock, L. A., McCarty, P. ve Skay, C. L. (1998). Procrastination in college students: The role of self-efficacy and anxiety. *Journal of Counseling and Development*, 76, 317-324.
- Hess, B., Sherman, M. F., & Goodman, M. (2000). Eveningness predicts academic procrastination: The mediating role of neuroticism. *Journal of Social Behavior & Personality*, 15, 61-74.
- Hill, M., Hill, D., Chabot, A., & Barral, J. (1978). A survey of college faculty and student procrastination. *College Students Personnel Journal*, 12, 256-262.
- Howell, A. J., Watson, D. C., Powell, R. A., & Buro, K. (2006). Academic procrastination: The pattern and correlates of behavioural postponement. *Personality and Individual Differences*, 40(8), 1519-1530.
- Hu, L.T., & Bentler, P. (1995). *Evaluating model fit*. In R. H. Hoyle (Ed.), *Structural equation modeling. Concepts, issues, and applications* (pp. 76-99). Thousand Oaks: Sage.
- Johnson, J. L. & Bloom, A. M. (1995). An analysis of the contribution of the five factors of personality to variance in academic procrastination. *Personality and Individual Differences*, 18(1), 127-133
- Kalantzi - Azizi, A., & Karadimas, E. C. (1994, Septem-

- ber). *The adaption of the Test concerning Abilities for Study and Examinations to a Greek student population and the relationship of temperament to procrastination*. Paper presented at the meeting of the 24th Congress of the European Association for Behavioral and Cognitive Therapies, Corfu, Greece
- KalantziAzizi, A. & Chatzidimou, S. (1996). Ερμηνευτική προσέγγιση της αναβλητικότητας στα μαθητικά / φοιτητικά καθήκοντα. [Interpretative approach of procrastination of school and academic tasks according to the Attribution Theory of the causes of behavior in Education field]. *Νέα Παιδεία* [Neapedia], 80, 89-111. [in Greek]
- Karademas, E. & KalantziAzizi, A. (2003). Η σχέση μεταξύ γεγονότων ζωής και καθημερινών προστριβών, προσδοκιών αυτό-αποτελεσματικότητας, στρατηγικών αντιμετώπισης αγχογόνων καταστάσεων και ψυχοσωματικής υγείας [The relationship between life events and daily hassles, self-efficacy expectations, coping strategies and psychosomatic health], *Ψυχολογία* [Psychology], 9, (1) 75-91. [in Greek]
- König, C. J., & Kleninmann, M. (2004). Business before pleasure: No strategy for procrastinators? *Personality and Individual Differences*, 37, 1045-1057
- Krause, K., & Freund, A. M. (2014). How to beat procrastination: The role of goal focus. *European Psychologist*, 19(2), 132.
- Mac Callum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology*, 51, 201-226.
- Mathioudakis, K. (2012). *Διερεύνηση του φαινομένου της προβληματικής χρήσης του διαδικτύου και η συσχέτισή του με τη ροή-απορρόφηση στο διαδίκτυο και την ακαδημαϊκή αναβλητικότητα στους Έλληνες φοιτητές* [An investigation of the relationship between problematic internet use, flow & academic procrastination among Greek college students]. Unpublished undergraduate thesis, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών [National and Kapodistrian University of Athens], Athens, Greece. [in Greek].
- Mellon, R., Koliadis, M., & Paraskevopoulos T. (2004). Normative development of fears in Greece: Self-reports on the Hellenic Fear Survey Schedule for Children. *Journal of Anxiety Disorders*, 18, 233-254.
- Micek, L. (1982). Some problems of self-autoregulation of volitional processes in university students from the point of view of their mental health. *Sbornik Praci Filosoficke Fakulty Brnenske University*, 31 (17), 51-70.
- Milgram, N., Batori, G., & Mowrer, D. (1993). Correlates of academic procrastination. *Journal of Social Psychology*, 31, 487-500.
- Milgram, N., Marshevsky, S. & Sadeh, A. (1994). Correlates of academic procrastination: Discomfort, task aversiveness, and task capability. *The Journal of Psychology*, 129(1), 145-155
- Navridis, Kl., Dragona, Th., Mialiarini, B., & Damigos, D. (1990). *Συμβουλευτικό Κέντρο για τους Φοιτητές του Πανεπιστημίου Ιωαννίνων: Ένα μεταβατικό πλαίσιο για μία μεταβατική ηλικία* [Counselling Centre for the Students of University Ioannina: A transient frame for a transient age]. Ioannina: Εκδόσεις Πανεπιστημίου Ιωαννίνων [Publications of University of Ioannina]. [in Greek]
- Orellana, L., Tindale, S., & Suarez-Balcazar, Y. (2000). Decisional and behavioral procrastination: How they relate to self-discrepancies. *Journal of Social Behavior and Personality*, 15(5), 225-238.
- Özer, B. U. & Ferrari, J. R., (2011). Gender Orientation and Academic Procrastination: Exploring Turkish High School Students. *Individual Differences Research* 9, (1), 33-40
- Özer, B. U. & Ferrari, J. R., (2011). Gender Orientation and Academic Procrastination: Exploring Turkish High School Students. *Individual Differences Research* 9, (1), 33-40
- Özer, B. U., Demir, A. & Ferrari, J.R. (2009). Exploring Academic Procrastination Among Turkish Students: Possible Gender Differences in Prevalence and Reasons. *The Journal of Social Psychology* 149 (2), 241-257
- Potts, T. J. (1987). Predicting procrastination on academic tasks with self-report personality measures (Doctoral dissertation, Hofstra University, 1987). *Dissertation Abstracts International*, 48, 1543.
- Pychyl, T. A., Coplan, R. J., & Reid, P. A. M. (2002). Parenting and procrastination: Gender differences in the relations between procrastination, parenting style and self-worth in early adolescence. *Personality and Individual Differences*, 33, 271-285.
- Rothblum, E. D., Solomon, L. J., & Murakabi, J. (1986). Affective, cognitive and behavioral differences between high and low procrastinators. *Journal of Counseling Psychology*, 33, 387-394.

- Schouwenburg, H. C. (1992). Procrastinators and fear of failure: An exploration of reasons for procrastination. *European Journal of Personality*, 6, 225-236.
- Schouwenburg, H.C., Lay, C., Pychyl, T.A., & Ferrari, J.R. (2004). *Counseling the procrastinator in academic settings*. Washington, DC: American Psychological Association.
- Statis, A. (2012). *Η γενική και ακαδημαϊκή αναβλητικότητα σε σχέση με την ψυχική υγεία των φοιτητών [General and academic procrastination in relation to university students mental health]*. Unpublished undergraduate thesis, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών [National & Kapodistrian University of Athens], Athens, Greece. [in Greek]
- Solomon, L. & Rothblum, E. (1984). Academic procrastination: Frequency and cognitive - behavioral correlates. *Journal of Counseling Psychology*, 31 (4), 503-509.
- Steel, P. (2007). The nature of procrastination: a meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological bulletin*, 133(1), 65.
- Tan, C. X., Ang, R. P., Klassen, R. M., Yeo, L. S., Wong, I. Y. F., Huan, V. S., & Chong, W. H. (2008). Correlates of academic procrastination and students' grade goals. *Current Psychology*, 27, 135-144.
- Van Eerde, W. (2003). A meta-analytically derived nomological network of procrastination. *Personality and Individual Differences*, 35 (6), 1401-1418.
- Watson, D. C. (2001). Procrastination and the five-factor model: A facet level analysis. *Personality and Individual Differences*, 30, 149-158.
- Χατζιδιμού, S. (1994). *Αναβλητικότητα στα σχολικά και φοιτητικά καθήκοντα σε μαθητές και φοιτητές [Procrastination in school and academic tasks among students of secondary and tertiary education]*. Unpublished master's thesis, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών [National and Kapodistrian University of Athens], Athens, Greece [in Greek]
- Efthimiou, K., Efstathiou, G., & Kalantzi-Azizi, A., (2007). *Πανελλήνια επιδημιολογική έρευνα ψυχικής υγείας στον φοιτητικό πληθυσμό [Panhellenic epidemiological research on mental health in student population]*. Αθήνα [Athens]: Πεδίο [Pedio]. [in Greek]

# Η Αναβλητικότητα Σπουδών στην Ελληνική Τριτοβάθμια Εκπαίδευση: Ρίχνοντας φως σε ένα ουσιαστικά αδιερεύνητο, αλλά κρίσιμο ζήτημα

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## ΠΕΡΙΛΗΨΗ

Η αναβλητικότητα σπουδών, η οποία χαρακτηρίζεται από δυσκολίες στον τομέα της αυτορρύθμισης, με της μορφή της καθυστέρησης στην έναρξη ή στην ολοκλήρωση ακαδημαϊκών έργων (Ferrari, 2010) είναι πολύ συχνή στους φοιτητές. Μια από τις πιο διαδεδομένες κλίμακες μέτρησης της αναβλητικότητας είναι η *Κλίμακα Αξιολόγησης της Αναβλητικότητας σε Φοιτητές* (Procrastination Assessment Scale Students, Solomon & Rotblum, 1984). Παρόλα αυτά υπάρχουν λίγες έρευνες οι οποίες μελετούν την παραγοντική της δομή χρησιμοποιώντας επιβεβαιωτική ανάλυση παραγόντων. Επιπλέον, οι ελληνικές έρευνες σχετικές με την αναβλητικότητα σπουδών είναι επίσης πολύ λίγες. Η παρούσα έρευνα μελέτησε την αναβλητικότητα σπουδών καθώς και την παραγοντική δομή της κλίμακας PASS σε 865 Έλληνες φοιτητές. Τα αποτελέσματα της επιβεβαιωτικής ανάλυσης παραγόντων επιβεβαίωσαν το μονοπαραγοντικό μοντέλο. Βρέθηκε επίσης ότι το 40.5% των φοιτητών ήταν πολύ αναβλητικοί, κυρίως ως προς την μελέτη των εξετάσεων, την συγγραφή εργασιών και την παρακολούθηση μαθημάτων. Οι λόγοι για τους οποίους οι φοιτητές ανέβαλλαν ήταν «ο φόβος της αποτυχίας», «η απέχθεια καθήκοντος», «ο φόβος της επιτυχίας/ επιρροή συνομηλίκων» και «η δυσκολία διεκδίκησης/ διαχείρισης του χρόνου». Δεν βρέθηκαν μεγάλες ηλικιακές ή διαφυλικές διαφορές ως προς την αναβλητικότητα σπουδών. Τέλος, οι περισσότεροι φοιτητές επιθυμούσαν να συμμετάσχουν σε ένα μελλοντικό πρόγραμμα για την αντιμετώπιση της αναβλητικότητας. Τα ευρήματα αυξάνουν την οικολογική εγκυρότητα της τρέχουσας βιβλιογραφίας και θα μπορούσαν να είναι δυνητικώς χρήσιμα για τους συμβούλους και τους ερευνητές.

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